

ARTICLE IX. CROSS-CONNECTION CONTROL

Sec. 31-120. Definitions.

The following definitions shall apply in the interpretation and enforcement of this article:

Agency: Illinois Environmental Protection Agency.

Approved: Back-flow prevention devices or methods of installation approved by the City of Rockford based on Research Foundation for Cross Connection Control of the University of Southern California, American Water Works Association, American National Standards Institute, American Society of Sanitary Engineers or certified by the National Sanitation Foundation.

Auxiliary water systems: A source of water outside the city's public water supply system. No connection to the city's public water supply system shall be made with any other water system without the approval of the superintendent.

Backflow: The flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water system from any source other than the intended source of the public water supply.

Backflow prevention device: Any device, method or type of construction intended to prevent backflow into a potable water system. All devices used for backflow prevention in Illinois must meet the standards of the Illinois Plumbing Code and the Illinois Environmental Protection Agency.

CCCDI (cross-connection control device inspector): A person who is a licensed plumber in the State of Illinois and has successfully completed both written and performance examinations administered by IEPA.

Compliance period: The installation of the required device within six (6) months after notification from the superintendent of the requirement.

Customer: The owner, official custodian or person in control of any premises supplied by or in any manner connected to a public water system.

Customer's water system: Any water system serving the premises, commencing at the point of connection with the city's water main as stated in section 31-30(a) of this chapter.

Contamination: The introduction into water of microorganisms, chemicals, wastes or wastewater in a concentration that makes water unfit for its intended use.

Double check valve assembly: An assembly composed of single, independently acting check valves, including tight shutoff valves located at each end of the assembly and suitable connections for testing the watertightness of each check valve.

Double check valve assembly with detector check: An assembly which measures water usage for urban fire safety systems.

Fixed air gap: The unobstructed vertical distance through the atmosphere between the water discharge point and the flood level rim of the receptacle.

Health hazard: Any condition, device or practice in a water system or its operation resulting from a real or potential danger to the health of the user that could be expected to result in death or significant reduction in quality of life.

Inspection: A plumbing inspection to examine all materials, fixtures, piping and appurtenances and installations of a plumbing system for compliance with requirements of the Illinois Plumbing Code, 77 Illinois Administrative Code 890.

Local authority: The mayor and city council of the City of Rockford.

Nonpotable water: Water not safe for drinking, personal or culinary use as determined by the requirements of 35 Illinois Administration Code 604 "Finished Water and Raw Water Quality and Quantity."

Plumbing: The actual installation, repair, maintenance, alteration or extension of a plumbing system by any person. Plumbing includes all piping, fixtures, appurtenances and appliances for a supply of water for all purposes, including without limitation lawn sprinkler systems, from the source of a private water supply on the premises or from the main in the street, alley or at the curb to, within and about any building where a person(s) lives, works or assembles. Plumbing includes all piping, from discharge of pumping units to and including pressure tanks in water supply systems. Plumbing includes all piping fixtures, appurtenances and appliances for a building drain and a sanitary drainage and related ventilation system of any building(s) where person(s) live, work or assembles from the point of connection of such building drain to the building sewer or private sewage discharge system five (5) feet beyond the foundation walls.

Pollution: The presence of any foreign substance (organic, inorganic, radiological or biological) in water that tends to degrade its quality so as to constitute a hazard or impair the usefulness of the water for human consumption.

Potable water: Water which meets the requirement of 35 Illinois Administrative Code 604 for drinking or any domestic purpose.

Potential cross-connection: A fixture or appurtenance with threaded hose connection, tapered spout or other connection which would facilitate extension of the water supply beyond its legal termination point.

Process fluid(s): Any fluid or solution which may be chemically or otherwise contaminated or polluted in a form or concentration such as to constitute a health, pollution or system hazard if introduced into the public or a customer's potable water system. This includes, but is not limited to:

- (1) Polluted or contaminated waters;
- (2) Process waters;
- (3) Used waters originating from the public water supply system which may have deteriorated in sanitary quality;
- (4) Cooling waters;
- (5) Questionable or contaminated natural waters taken from wells, lakes, streams or irrigation systems.
- (6) Chemicals in solution or suspension;
- (7) Oils, gases, acids, alkalis and other liquid and gaseous fluids used in industrial or other processes or for fire fighting purposes.

Public water supply systems: All mains, pipes and structures owned and/or maintained by the City of Rockford through which water is obtained and distributed to the public, including wells and well structures, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances, collectively or severally, actually used or intended for use for the purpose of furnishing potable water.

Reduced pressure zone principal backflow prevention device (RPZ): A device containing a minimum of two (2) independently acting check valves, together with an automatically operated pressure differential relief valve located between the two (2) check valves. During normal flow and at the cessation of normal flow, the pressure between these two (2) checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the check valves at less than the supply pressure. The unit must include tightly closing shutoff valves located at each end of the device and each device shall be fitted with properly located test cocks.

Service connection: The physical connection to the water main including all fittings and appurtenances through which water is supplied to the customer.

Survey: The collection of information pertaining to a customer's piping system regarding the location of all connections to the public water supply system and must include the location, type and most recent inspection and testing date of all cross-connection control devices and methods located within that customer's piping system. The survey shall be completed on a form supplied by the City of Rockford.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-121. Cross-connection control devices required; when certain connections prohibited; surveys and inspections required.

(a) *Installation upon notice.* If, in accordance with the Illinois Plumbing Code or in the judgment of the city water superintendent, an approved backflow prevention device is necessary for the safety of the public water supply system, the superintendent shall give notice to the water customer to install such an approved device. The water customer shall, at his own expense, install such an approved device at a location and in a manner in accordance with the Illinois Plumbing Code and all applicable local regulations and shall have annual inspections and tests made of such approved devices as required by the Illinois Plumbing Code and local regulations.

(b) *Connections to other than city-supplied water systems regulated.* No person, firm or corporation shall establish or permit to be established or maintain any connection whereby a private, auxiliary or emergency water supply other than the regular public water supply of the city may enter the supply or distribution system of the city, unless such private, auxiliary or emergency water supply and the method of connection and use of such supply shall have been approved by the superintendent and the Illinois Environmental Protection Agency.

(c) *Surveys and inspections.* It shall be the duty of the superintendent to cause surveys and inspections to be made of industrial and other properties served by the public water supply to determine whether actual or potential hazards to the public water supply may exist. Such surveys and inspections shall be made a matter of public record and shall be conducted at least every two (2) years or as often as the superintendent shall deem necessary. Records of such surveys shall be maintained and available for review for a period of not less than five (5) years.

(d) *Authority to enter property.* The approved cross-connection control device inspector shall have the right to enter at any reasonable time any property served by a connection to the public water or distribution system of the city for the purpose of verifying the presence or absence of cross-connections, and the superintendent shall have the right to enter at any reasonable time any property served by a connection to the public water supply or distribution system of the city for the purpose of verifying information submitted by the customer regarding the required cross-connection control inspection. On demand, the owner, lessees or occupants of any property so served shall furnish to the superintendent any information he may request regarding the piping system or systems or water use on such property. The refusal to provide such information, when requested, shall be deemed evidence of the presence of improper connections as provided in this article.

(e) *Authority to discontinue water supply.* The water superintendent of the city is hereby authorized and directed to discontinue, after the specified compliance period is exhausted, the water service to any property wherein any connection exists in violation of the provisions of this article, and to take such other precautionary measures as he may deem necessary to eliminate any danger of contamination of the public water supply distribution mains.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-122. General cross-connection control policy.

The purpose of this article is:

- (1) To protect the public water supply system from contamination or pollution by isolating from the customer's water system contaminants or pollutants which could backflow through the service connection into the public water supply system.
- (2) To promote the elimination or control of existing cross-connections, actual or potential, between the public or customer's potable water system and non-potable water systems, plumbing fixtures and sources or systems contaminating substances of unknown or questionable quality.
- (3) To provide for the maintenance of a continuing program of cross-connection control which will prevent the contamination or pollution of the public and customer's potable water system.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-123. Application.

This article shall apply to all premises served by the public water supply system of the city.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-124. Policy.

The owner or official custodian shall be responsible for protection of the public water supply system from contamination due to backflow or back-siphoning of contaminants through the customer's water service connection. If, in the judgement of the superintendent, an approved backflow prevention device is necessary for the safety of the public water supply system, the superintendent shall give notice to the customer to install such approved backflow prevention device at each service connection to the premises. The customer, after due written notice and within the prescribed time indicated on the notice, shall install such approved device(s) at his own expense. Failure or refusal on the part of the customer to install such device(s) within the time indicated on the notice shall constitute grounds for discontinuing water service to the premises until device(s) have been installed. The customer shall retain records of installation, maintenance, testing and repair as required herein.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-125. Cross-connection prohibited.

- (a) Connections between the public water supply system and other systems or equipment containing water or other substances of unknown or questionable quality are prohibited except when and where approved cross-connection control devices or methods are installed, tested and maintained to insure proper operation on a continuing basis.
- (b) No connection shall be permitted between the public water supply system and any other water supply not of equal or better bacteriological and chemical quality as determined by inspection and analysis by the agency and/or the city.
- (c) There shall be no arrangement or connection by which contamination may enter the public water supply system.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-126. Survey and investigations.

- (a) The customer's premises shall be open at reasonable times to the CCCDI for the inspection for the presence or absence of cross-connections within the customer's premises and testing, repair and maintenance of cross-connection control devices within the customer's premises.
- (b) On request by the superintendent or his designee, the customer shall furnish information regarding the piping system or systems for water use within the customer's premises and cross-connection inspection results. The customer's premises shall be open at reasonable times to the water superintendent for the verification of information submitted by the customer regarding the piping system or systems for water use and cross-connection inspection results.
- (c) It shall be the responsibility of the customer to arrange a survey to be made on a set period of time not to exceed an annual survey of water use practices on the customer's premises to determine whether there are actual or potential cross-connections to the customer's water system through which contamination or pollution could backflow into the customer's water system or the public water system. All cross-connection control or other plumbing inspections must be conducted in accordance with 225 Illinois Compiled Statutes 320/40, and as amended from time to time.
- (d) It is the responsibility and financial obligation of the customer to prevent backflow into the public water supply system by ensuring that:
 - (1) All cross-connections are removed or approved cross-connection control devices are installed for control of backflow and back-siphoning.
 - (2) Cross-connection control devices shall be installed in accordance with the manufacturer's instructions.
 - (3) Cross-connection control devices shall be inspected at least annually by a person approved by the agency as a CCCDI. The inspection of mechanical devices shall include physical testing in accordance with manufacturer's instructions on an annual basis.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-127. Testing and records.

- (a) Each device shall be tested at least annually by a certified CCCDI or more frequently if recommended by the manufacturer or superintendent.
- (b) Original records submitted to the superintendent shall be available for inspection by agency personnel in accordance with 415 Illinois Compiled Statutes 5/4. These original records shall be maintained by the City of Rockford.
- (c) Each device shall have a tag attached listing the date of the most recent test, name of the CCCDI and type and date of repairs.
- (d) A maintenance log shall be maintained and include:
 - (1) Date of each test;
 - (2) Name and approval number of person performing the inspection or test;
 - (3) Test results/inspection;
 - (4) Repairs and servicing required;

- (5) Repairs and date completed; and
- (6) Services performed and date complete.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-128. Confidential information.

(a) Water customers that file reports with the city may request that portions of a report which may disclose trade secrets or proprietary processes shall not be made available for inspection by the public. Confidential portions shall be made available upon written request to the government agencies for uses related to this chapter. Portions of a report shall be available for use by the state or any state agency in judicial review or enforcement proceedings involving the water customer furnishing the report.

(b) Any information accepted as confidential shall not be transmitted to the general public until and unless written notification is given to the customer. It shall be the responsibility of the customer to prove confidentiality to the city by immediately presenting the basis for such a claim of confidentiality. The city shall not be required to make data available to the general public except in accordance with the Rockford Municipal Code and the Illinois Freedom of Information Act, 5 Illinois Compiled Statutes 140/1.

(c) Nothing herein shall be construed to limit or restrict any customer from exercising any right it may have to object to any request by the city for confidential information from such user.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-129. Where protection is required.

(a) An approved backflow prevention device shall be installed on each water service line to a customer's water system when, in the judgement of the superintendent, actual or potential hazards to the public water supply system may exist.

(b) An approved backflow prevention device shall be installed on each water service line to a customer's water system where the following conditions exist:

- (1) Premises having an auxiliary water system, unless such auxiliary water system is accepted as an additional source by the superintendent and the source is approved by the agency and local authority.
- (2) Premises where any substance(s) exists which can create an actual or potential hazard to the public water supply system.
- (3) Premises having internal cross-connections that, in the judgement of the superintendent, are not correctable or intricate plumbing arrangements which make it impractical to determine whether or not cross-connections exist.
- (4) Premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete cross-connection survey.
- (5) Premises having a repeated history of cross-connections being established or re-established.

(c) An approved backflow prevention device shall be installed on each water line to a customer's water system servicing, but not necessarily limited to, the following types of facilities unless the superintendent determines that no actual or potential hazard to the public water supply system exists:

- (1) Hospital, mortuaries, clinics, nursing homes.
- (2) Laboratories.
- (3) Sewage treatment plants, sewage pumping stations or stormwater pumping stations.
- (4) Food or beverage processing plants.
- (5) Fertilizer/chemical plants.
- (6) Metal plating industries.
- (7) Petroleum processing or storage plants.
- (8) Radioactive material processing plants or nuclear.
- (9) Car washes.
- (10) Lawn sprinkler systems.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-130. Type of protection required.

(a) The type of protection required shall depend on the degree of hazard which exists as follows:

- (1) An approved fixed air gap shall be installed where the public water supply system may be contaminated causing a severe health hazard.
- (2) An approved fixed air gap or an approved reduced pressure zone principal backflow prevention device shall be installed where the public water supply system may be contaminated causing a system or health hazard.
- (3) An approved fixed air gap separation or an approved reduced pressure zone principal backflow prevention device shall be installed where the public water supply system may be polluted with substances that could cause a pollution hazard dangerous to health.

(b) The type of protection required under this article shall be an approved fixed air gap separation or an approved reduced pressure zone principal backflow prevention device.

(c) Where a public water supply or an auxiliary water supply is used for a fire protection system, reduced pressure zone principal backflow preventers shall be installed between the fire sprinkler systems connected to the public water supply system when:

- (1) The sprinkler system contains antifreeze and/or chemical additives.
- (2) Water may be pumped into the system from another source and/or nonpotable water supply or can be connected to the sprinkling system.

(d) All backflow prevention devices, methods, installation and maintenance required by this article shall be approved by the superintendent. Approval shall be based on the Research Foundation for Cross Connection Control of the University of Southern California, American Water Works Association, American Society of Sanitary Engineering or American National Standards Institute or certified by the National Sanitation Foundation to be in compliance with applicable industry specifications. A manufacturer's maintenance manual shall be available on-site.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-131. Inspection and maintenance.

(a) *Schedule for inspection, testing, maintenance and repair.* It shall be the duty of the customer at the premises on which backflow prevention devices required by this article are installed to have inspection, tests, maintenance and repair made in accordance with the following schedule or more often where inspections indicate a need or are specified in the manufacturer's instructions:

(1) Fixed proper air gap separations shall be inspected at the time of installation and at least annually thereafter.

(2) Double check valve assemblies shall be inspected and tested for tightness at time of installation and at least annually thereafter and required service performed within fifteen (15) days.

(3) Reduced pressure zone principal backflow prevention devices shall be tested at least annually or more frequently if recommended by the manufacturer.

(b) *Testing by agency-approved person.* Testing shall be performed by a person who has been approved by the agency as competent to service the device. Proof of approval shall be in writing.

(c) *Labeling tag.* Each device shall have a tag attached including the information as required by this article.

(d) *Repair of backflow prevention devices.* Whenever backflow prevention devices required by these regulations are found to be defective, they shall be repaired or replaced at the expense of the customer within fifteen (15) days or as specified by the superintendent. Backflow prevention devices shall not be bypassed, made inoperative, removed or otherwise made ineffective without written specific authorization by the superintendent.

(e) *Forwarding of test results.* Copies of all test results shall be forwarded to the superintendent at the time of each inspection as described above in this article.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-132. Booster pumps.

(a) Where a booster pump has been installed on the service line to or within any premises, such pump shall be equipped with a low-pressure cutoff device designed to shut off the booster pump when the pressure in the service line on the suction side of the pump drops to twenty (20) psi or less.

(b) It shall be the duty of the customer to maintain the low-pressure cutoff device in proper working order and to certify to the superintendent at least once a year that the device is operative.

(Ord. No. 1993-274-0, 10-18-93)

Sec. 31-133. Violations.

(a) The superintendent may deny or discontinue, after the specified compliance period is exhausted, the water service to any premises wherein any backflow prevention device required by these regulations is not installed, tested, maintained and repaired in a manner acceptable to the superintendent, or if it is found that the backflow prevention device has been removed or

bypassed, or if an unprotected cross-connection exists on the premises, or if a low-pressure cutoff required by these regulations is not installed or maintained in working order.

(b) Water service to such premises shall not be restored until the customer has corrected or eliminated such conditions or defects in conformance with this article and to the satisfaction of the superintendent and the required reconnection fee of five hundred dollars (\$500.00) is paid.

(Ord. No. 1993-274-0, 10-18-93)